

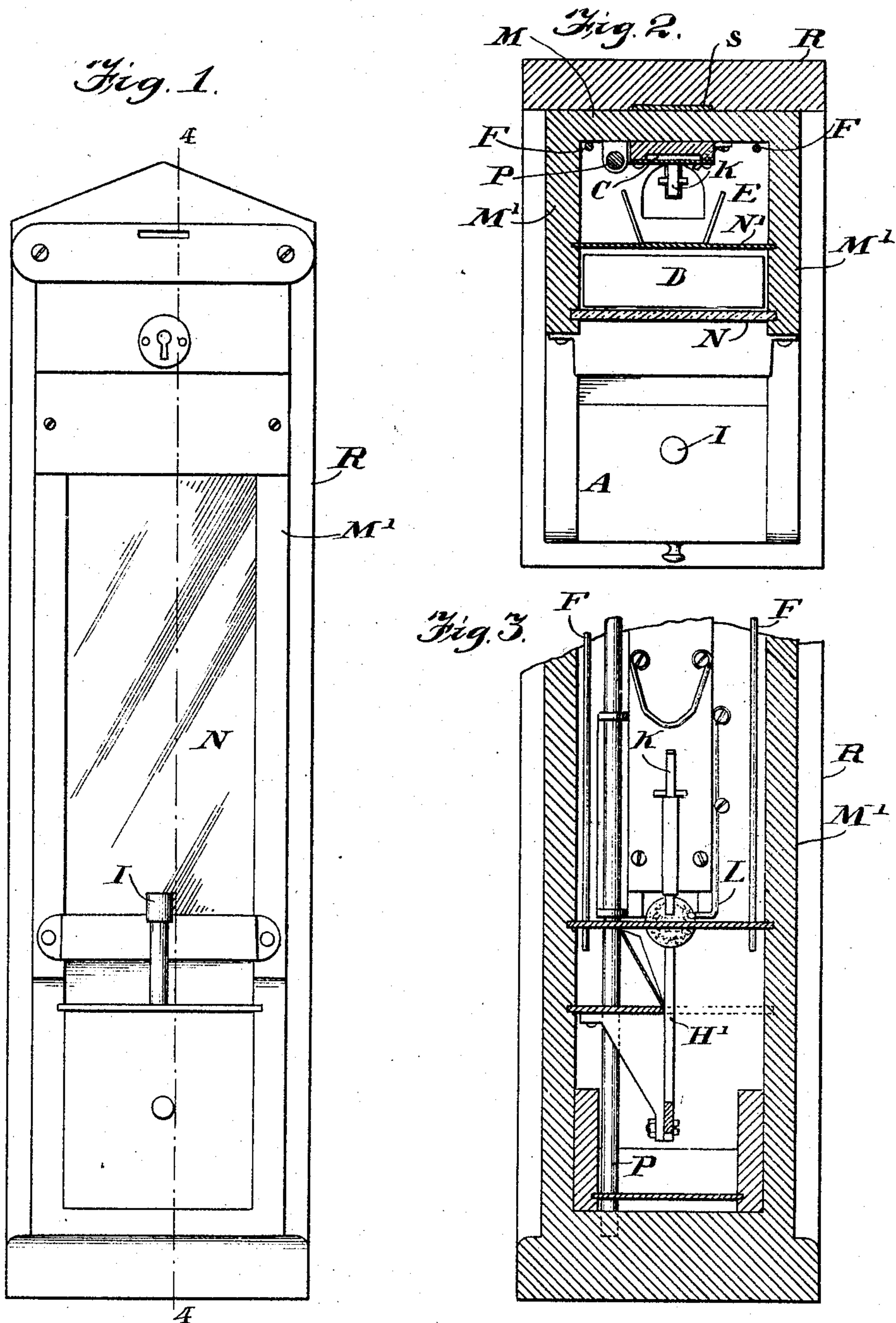
No. 785,666.

PATENTED MAR. 21, 1905.

W. DIEBEL.
COIN OPERATED VENDING MACHINE.

APPLICATION FILED DEC. 23, 1903.

2 SHEETS—SHEET 1.



Witnesses:
H. B. Hallak.
L. H. Morrison

Inventor:
William Diebel,
By *W. P. Williams* Atty.

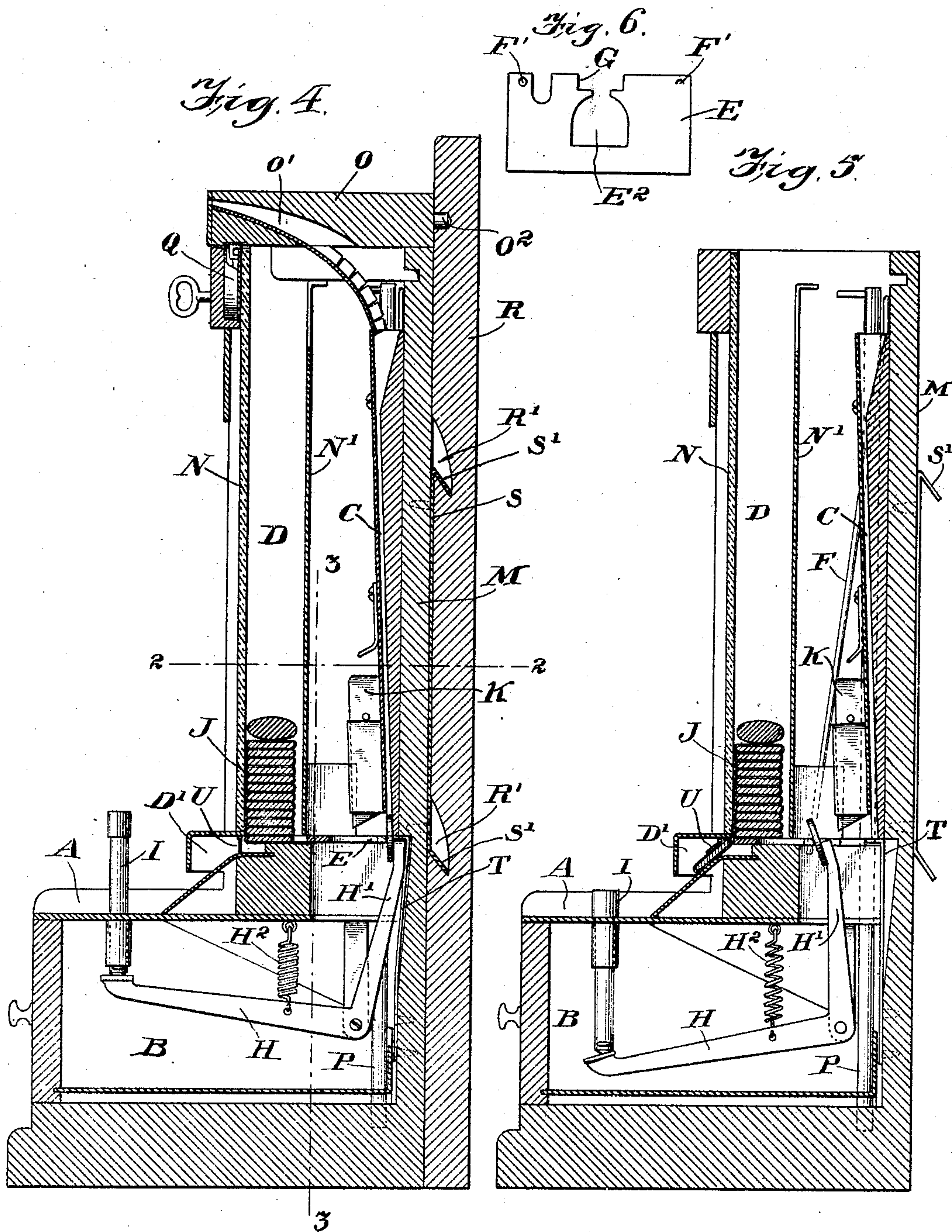
No. 785,666.

PATENTED MAR. 21, 1905.

W. DIEBEL.
COIN OPERATED VENDING MACHINE.

APPLICATION FILED DEC. 23, 1903.

2 SHEETS—SHEET 2.



Witnesses:
H. B. Hallock.
L. A. Morrison

Inventor:
William Diebel,
By *W. P. Williams*
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM DIEBEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
NATIONAL VENDING MACHINE COMPANY, OF PHILADELPHIA,
PENNSYLVANIA.

COIN-OPERATED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 785,666, dated March 21, 1905.

Application filed December 23, 1903. Serial No. 186,277.

To all whom it may concern:

Be it known that I, WILLIAM DIEBEL, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to a new and useful improvement in coin-operated vending-machines, and has for its object to provide a simple, durable, and effective machine of this description which may be manufactured at a comparatively small cost, be compact in form, and positive in its action.

A further object of my invention is to further construct the machine so that the plunger actuating the mechanism will be pressed downward instead of inward upon a horizontal line.

Another distinct feature of my invention is that one lock secures all the parts in place, including the money-drawer, and also locks the machine to its support if the machine is suspended.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of my machine; Fig. 2, a horizontal section on the line 2 2 of Fig. 4; Fig. 3, a section on the line 3 3 of Fig. 4; Fig. 4, a vertical section on the line 4 4 of Fig. 1; Fig. 5, a similar view to Fig. 4, showing the top removed and the plunger depressed; Fig. 6, a plan view of the delivery-slide.

The body of said machine may be of any suitable shape or design desired, but is preferably formed with a base A, in which a horizontally-sliding drawer B is located, the coin-chute C and merchandise-holder D arising

vertically from the rear of said base, the package of merchandise delivered adapted to slide outward upon the upper surface of the forward end of the base A.

E is the delivery-slide, which is in the form of a plate, said plate arranged to slide horizontally in suitable guideways in the body of the machine and is normally held in its rearward position by means of the spring-arms F, which arms are secured at their upper ends to the body of the machine, the lower or free end of said arms engaging the plate E by preferably passing through holes F', formed through said plate. At the rearward end of said plate is a cut-away portion G, which normally lies directly underneath the coin-chute C. This cut-away portion G is slightly narrower in width than the diameter of the proper coin for operating the machine. Therefore when the coin passes down the chute C it will drop into the cut-away portion G and be held within the delivery-slide E.

H is a bell-crank lever pivoted to the body at a point below the delivery-slide, one member of said bell-crank lever normally lying at the rear of the machine and in such a position that when the coin drops into the cut-away portion G the lower portion of said coin will be in front of the upper end of the member H' of said bell-crank lever. The other member of said bell-crank lever is in contact with the lower end of a plunger I, which plunger slides vertically through the upper plate of the base A. A spring H² serves to return the bell-crank lever to its normal position.

J represents the packages of merchandise held within the merchandise-holder D and resting upon a solid surface, so that the lower package is directly in front of the delivery-slide E. Thus when the plunger I is depressed, after the proper coin has been inserted, the upper end of the member D' of the bell-crank lever will come in contact with the lower portion of the coin and press said coin forward, and said coin pressing against the delivery-slide will force the slide forward, which in turn will contact the lower package of merchandise and press the same outward

into the chute D', where it will be deposited upon the upper plate of the base A.

K is a vertical slide held in a suitable guideway secured to the front of the coin-chute C, and the lower end of this slide is beveled downward and away from the coin-chute, so that when the coin is pressed forward the upper edge of said coin will contact the beveled surface upon the lower end of the slide K and press said slide upward, and after the coin has passed the slide said slide will drop to its normal position or be forced to such position by a spring, and when the plunger I is released and the springs F return the slide to its normal position the upper portion of the coin will then come in contact with the front edge of the lower end of the slide K and arrest the movement of the coin and also of the delivery-slide; but as the member H' continues onward in its rearward movement it will leave the lower surface of the coin, and as the springs F tend to press the delivery-slide rearward and the upper portion of the coin being in contact with the resisting-slide K said coin will be tipped over forward and fall through the enlarged opening E², formed through the delivery-slide E, and drop downward into the money-drawer beneath.

In order to prevent any person depressing the plunger a certain distance downward, but not a sufficient distance to cause the coin to pass forward of the slide K, and then utilizing a wire or other instrument for dislodging the partially-disposed package of merchandise and then releasing the plunger and allowing the coin to come back without being deposited in the money-drawer, whereby the operation could be repeated, I provide a spring-dog L, the free end of which lies in the path of travel of the coin as it passes forward, so that the first movement of the coin will press this spring-dog L backward, and as it passes the dog the dog will spring behind the coin and prevent its return, and therefore the coin must be pressed entirely forward of the delivery-slide and returned to its normal position.

The vertical portion of the machine in which the coin-chute and merchandise-holder are located consists of a back M, two sides M', and a transparent front N, through which transparent panel the merchandise may be viewed. A vertical opaque slide N' behind the merchandise serves to hide the mechanism behind from view.

O is a top adapted to fit over the top of the back M, sides M', and the panel N. The transparent panel N slides in vertical guideways in the sides M', and this panel may be removed for filling the merchandise-holder, or the holder could be filled from above, if desired.

P is a vertically-sliding rod, the lower end of which passes through an opening formed through the bottom of the cash-drawer B. Therefore said cash-drawer cannot be removed

until the rod is raised, and said rod cannot be raised until the top is removed, and when the top is in place and locked in position by the lock Q the rod P cannot be reached to unlock the drawer, or the transparent panel N cannot be removed.

The top O is provided with an opening the exact size of the proper coin, and a chute O' leads to the coin-chute C.

R is a support for the machine and consists of a strip of wood or other suitable material arranged against the back of the machine and removable therefrom. This support R is provided in its forward face with a number of undercut notches R', and upon the back of the machine is provided a strip S, each end of which is turned downward at an angle, as shown at S', and these ends are adapted to fit into the notches R' of the support, so that the machine must be raised to be inserted in the notches and then lowered, so as to hang upon the support R. A stud O², projecting rearward from the top O, enters a round opening in the support, and therefore after the top is locked in place the machine cannot be removed from the support R, because it cannot be raised out of the notches R'. When the machine is designed to be suspended or attached to a wall, fence, or other object, the support R is designed to be secured to the wall or fence by screws passing through the support, the head of said screws or nails being covered by the machine when the machine is attached to the support R; but the machine is designed especially for setting upon a counter or table, and as the bottom of the support R is flush with the bottom of the machine the support may be left attached to the machine when in use. In this manner, of course, the notches R' could be so formed that the machine must be raised upward to attach the same to the support.

One of the principal advantages of this machine consists in providing a vertical operating-plunger, as in machines in which the plungers are pressed inward horizontally the machine must be secured to the counter or table or it is liable to move when the plungers are pressed. My machine may be located at any place without any fastenings, for there is no tendency to move the machine when the plunger is depressed.

At the rear of the delivery-slide E is arranged a spring T, which is secured at its lower end to the back M of the box, the upper or free end being bent forward horizontally, and when the member H' of the bell-crank lever is in its normal position it presses this spring backward into a recess provided with the same in the back of the box; but as soon as the bell-crank lever is operated and the member H' leaves the spring T said spring will pass forward so that the horizontal end lies underneath the lower opening of the coin-chute, and thus if more than one coin is in-

serted in the machine before the machine is operated the second coin will be caught and rest upon the top of the spring T when the bottom coin travels forward, and then when the delivery-slide E and bell-crank lever H return to their normal position the spring T will be removed from underneath the second coin and allow said coin to drop into the cut-away portion G of the delivery-slide, so that the machine can be again operated with this coin. Therefore the coin chute could be filled entirely with coins, and the machine could be operated one time for each coin.

In order to prevent persons tampering with the merchandise in the machine by inserting a wire or tool through the delivery-chute and trying to dislodge the bottom package of merchandise, I provide a swinging shutter or door U, which is hinged at its upper edge and normally lies vertical, and when the bottom package of merchandise is pressed outward by the delivery-slide said door or shutter will swing outward, as shown in Fig. 5, to allow the package to be delivered and then will resume its normal position.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a coin-actuated vending-machine, a body, a vertical coin-chute arranged within said body, a vertical merchandise-holder, a horizontally-reciprocating delivery-slide, the lower package of merchandise normally lying forward of the delivery-slide so as to be pushed outward by said slide when the same is moved forward, the delivery-slide being provided with an opening slightly narrower in width than the proper-size coin, said opening normally lying underneath the lower end of the coin-chute so that the coin will drop into the delivery-plate and be held in said opening, a bell-crank lever pivoted to the body, one member of said bell-crank lever adapted to lie behind the lower portion of the coin when it drops into the delivery-plate, a vertically-sliding plunger contacting the other member of the bell-crank lever, a spring for returning the bell-crank lever to its normal position, a beveled slide adapted to be pushed upward by the upper portion of the coin when said coin and delivery-plate are pressed forward by the lever, said delivery-plate provided with an opening located forward of the opening in which the coin drops, said forward opening being wider than the diameter of the coin, the upper portion of said coin adapted to come in contact with the vertical face of the beveled slide on the return movement of the delivery-plate so as to cause the

coin to tip over and fall through the forward opening of the slide, and springs for returning the delivery-plate to its normal position, as specified.

2. In a coin-actuated vending-machine, the combination of a body having a base, a vertical merchandise-holder and a coin-chute arranged therein with a horizontally-reciprocating delivery-slide lying normally at the rear of the bottom package of merchandise, said delivery-plate being cut inward from the rear, said cut-away portion being narrower in width than the diameter of the proper-size coin and located normally directly underneath the coin-chute so that the coin will fall into the cut-away portion and be held therein extending partially through the plate, a bell-crank lever pivoted to the base, the vertical member of said bell-crank lever extending upward, the upper end of this vertical member lying in such a position normally that the lower portion of the coin extending through the delivery-plate will lie forward of this member, a vertically-reciprocating plunger, the lower end of which contacts the upper surface of the outer end of the other member of the bell-crank lever, a spring for returning the lever to its normal position, a vertically-sliding plate adapted to slide in suitable guideways secured to the forward plate of the coin-chute, the lower surface of said sliding plate being beveled downward and forward, the upper portion of the coin adapted to strike the beveled surface and force this vertically-sliding plate upward when the coin and delivery-slide are forced forward by the lever, the delivery-plate provided with an opening forward of the cut-away portion, said opening being larger than the diameter of the proper-size coin, said coin adapted to contact the forward vertical edge of the vertically-sliding plate on the rearward movement of the coin so as to tip the coin over and allow the same to fall through the forward opening of the delivery-slide, a spring for returning the delivery-slide to its normal position, a spring normally held under tension by the bell-crank lever, said spring adapted to spring underneath the lower end of the coin-chute when the bell-crank lever travels forward, and a spring-latch adapted to snap behind the coin on its first forward movement before it has passed the vertically-sliding plate so as to prevent the return of the coin after passing said spring-latch, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM DIEBEL.

Witnesses:

MARY E. HAMER,
L. W. MORRISON.